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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/855,853	05/15/2001	Stefan J. Murry	PAT013	1173

27543 7590 09/25/2002

APPLIED OPTOELECTRONICS, INC.
13111 JESS PIRTLE BLVD.
SUGAR LAND, TX 77478

EXAMINER

RODRIGUEZ, ARMANDO

ART UNIT PAPER NUMBER

2828

DATE MAILED: 09/25/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/855,853

Applicant(s)

MURRY ET AL

Examiner

Armando Rodriguez

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-47 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Paul IP
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SUPERVISORY PATENT EXAMINER
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Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2,3. 6) ☐ Other: .

DETAILED ACTION

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the driver circuit of claim 20 must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

Claims 11 and 27 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Regarding claim 11.

It is unclear as to how applicant mounts the edge receiving optical devices to the bench substrate as recited in claim 1, if the devices have not been fabricated as implied by claim 11.

Regarding claim 27.

It is unclear as to how applicant mounts the edge receiving optical devices to the bench substrate as recited in claim 22, if the devices have not been fabricated as implied by claim 27.

Regarding claim 40.

It is unclear as to how applicant mounts the edge receiving optical devices to the bench substrate as recited in claim 35, if the devices have not been fabricated as implied by claim 40.

Claim Rejections - 35 USC § 101

Claim 42 provides for the use of the system, but, since the claim does not set forth any steps involved in the method/process, it is unclear what method/process applicant is intending to encompass. A claim is indefinite where it merely recites a use without any active, positive steps delimiting how this use is actually practiced.

Claim 42 is rejected under 35 U.S.C. 101 because the claimed recitation of a use, without setting forth any steps involved in the process, results in an improper definition of a process, i.e., results in a claim which is not a proper process claim under 35 U.S.C. 101. See for example *Ex parte Dunki*, 153 USPQ 678 (Bd.App. 1967) and *Clinical Products, Ltd. v. Brenner*, 255 F. Supp. 131, 149 USPQ 475 (D.D.C. 1966).

Claim Rejections - 35 USC § 102

(e) the invention was described in-

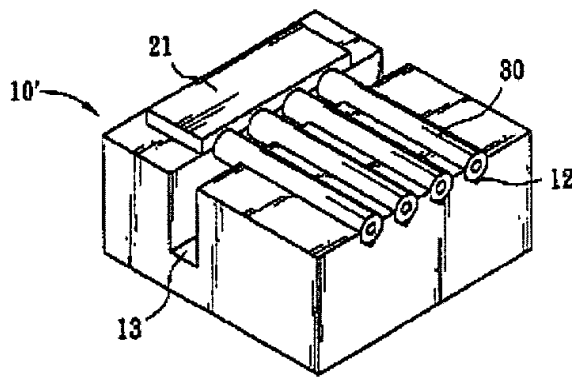
(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application

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published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or
(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

Claims 1,4,7,8,10,12,18,19,20-26,32-42 are rejected under 35 U.S.C. 102(e) as being anticipated by Wu et al (US 2002/0037137).

Figure 6 illustrates an array of vertical cavity surface emitting lasers (21) mounted on a slot (11) (not shown see figure 2) and an array of optical fibers (30), where the lasers and the fibers are all mounted on a silicon substrate. The lasers emit a light, which is optically coupled to the edge of the fiber.

**FIG. 6**

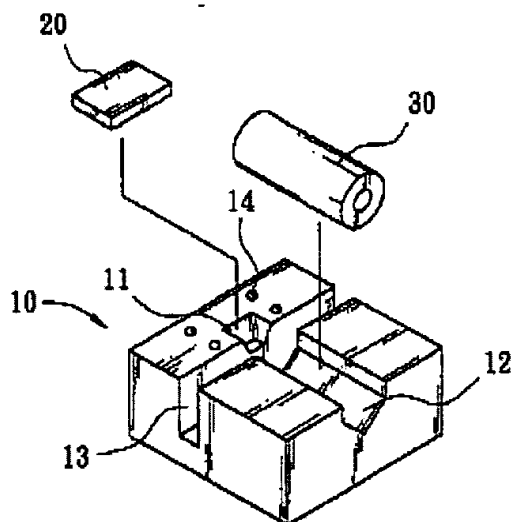


FIG. 2

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 2,3,5,6,9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu et al (US 2002/0037137) in view of Evans et al (PN 2002/003205) and Melman (PN 5,163,113).

In figure 6 Wu et al illustrates an array of vertical cavity surface emitting lasers (21) mounted on a slot (11) (not shown see figure 2 and an array of optical fibers (30), where the lasers and the fibers are all mounted on a silicon substrate. The lasers emit a light, which is optically coupled to the edge of the fiber.

Wu et al does not disclose direct coupling of the lasers and the optical devices.

In figures 2a and 3 Evans et al illustrates direct coupling of an array of lasers with an optical waveguide as separate devices and in figure illustrates the lasers and the waveguide as an integrated device.

Furthermore, direct coupling of a laser with an optical fiber is well known in the art as shown in figure 1 of Melman.

Therefore, it would have been obvious to a person having ordinary skill in the art to provide direct coupling of a laser and an optical element mounted on a common substrate because such teaches of coupling and common substrates have been well documented within the art *as taught or suggested by Evans and Melman.*

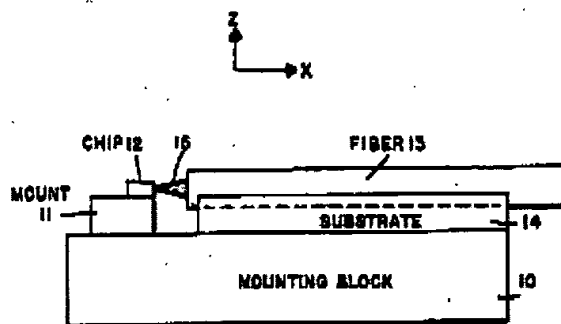


FIG. 1
(PRIOR ART)

Claims 13-17,28-31 and 43-47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Wu et al (US 2002/0037137) in view of Ota et al (PN 5,986,790) and McCaul et al (PN 5,625,189).

Regarding claims 13-17,20,28-31

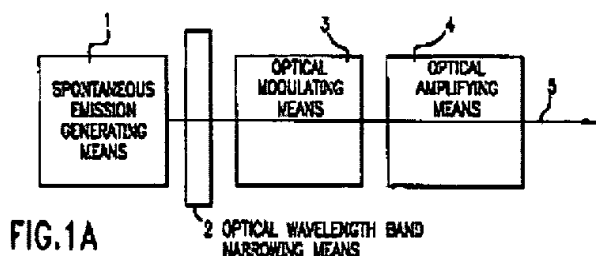
In figure 6 Wu et al illustrates an array of vertical cavity surface emitting lasers (21) mounted on a slot (11) (not shown see figure 2 and an array of optical fibers (30),

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where the lasers and the fibers are all mounted on a silicon substrate. The lasers emit a light, which is optically coupled to the edge of the fiber.

Wu et al does not disclose coupling modulators, amplifiers and SOA with the array of lasers.

Coupling of optical modulators, optical amplifiers or any other optical element within a laser system is well known in the laser art and would be within the level of skill of any person having ordinary skill in the art, which understands the scientific and engineering principles applicable to the claimed invention, as shown in figure 1A of Ota et al.



Regarding claims 43-47.

In figure 6 Wu et al illustrates an array of vertical cavity surface emitting lasers (21) mounted on a slot (11) (not shown see figure 2 and an array of optical fibers (30), where the lasers and the fibers are all mounted on a silicon substrate. The lasers emit a light, which is optically coupled to the edge of the fiber.

Wu et al does not disclose the intended use of the laser system in a gas spectroscopy.

Gas spectroscopy are well known in the art, McCaul et al discloses such a laser system utilizing single mode surface emitting lasers. *It would have been obvious to one of ordinary skill in the art to provide Wu et al with the laser as taught or suggested by McCaul et al.*

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Armando Rodriguez whose telephone number is (703) 308-6218. The examiner can normally be reached on 10-hour day / M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Paul Ip can be reached on (703) 308-3098. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 308-7722 for regular communications and (703) 308-7721 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-4881.


Armando Rodriguez
Examiner
Art Unit 2828


Paul Ip
Supervisor
Art Unit 2828

AR/PI
September 21, 2002